ARPA NETWORK
INITIAL TOPOLOGY

$49 K per node per year
16 KB per node

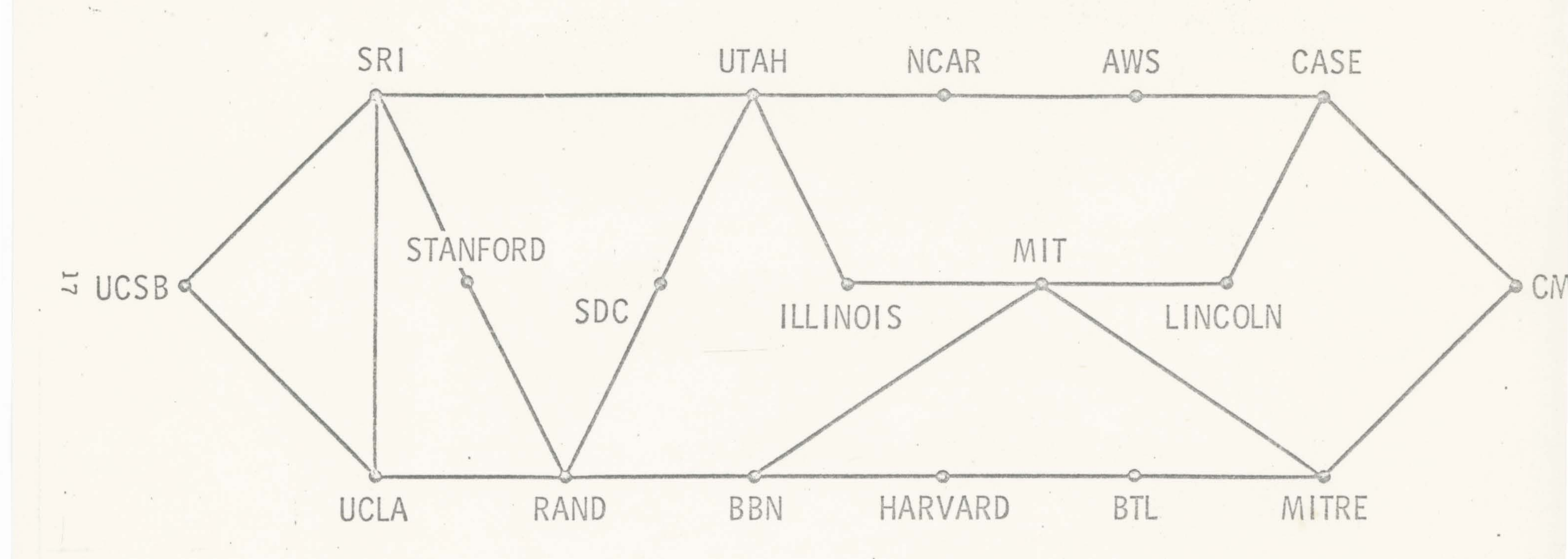


FIGURE 1

ARPA NETWORK
EXPANDED TOPOLOGY

$59 K per node per year
23 KB per node

3.26 hops

54/2 links
18 nodes

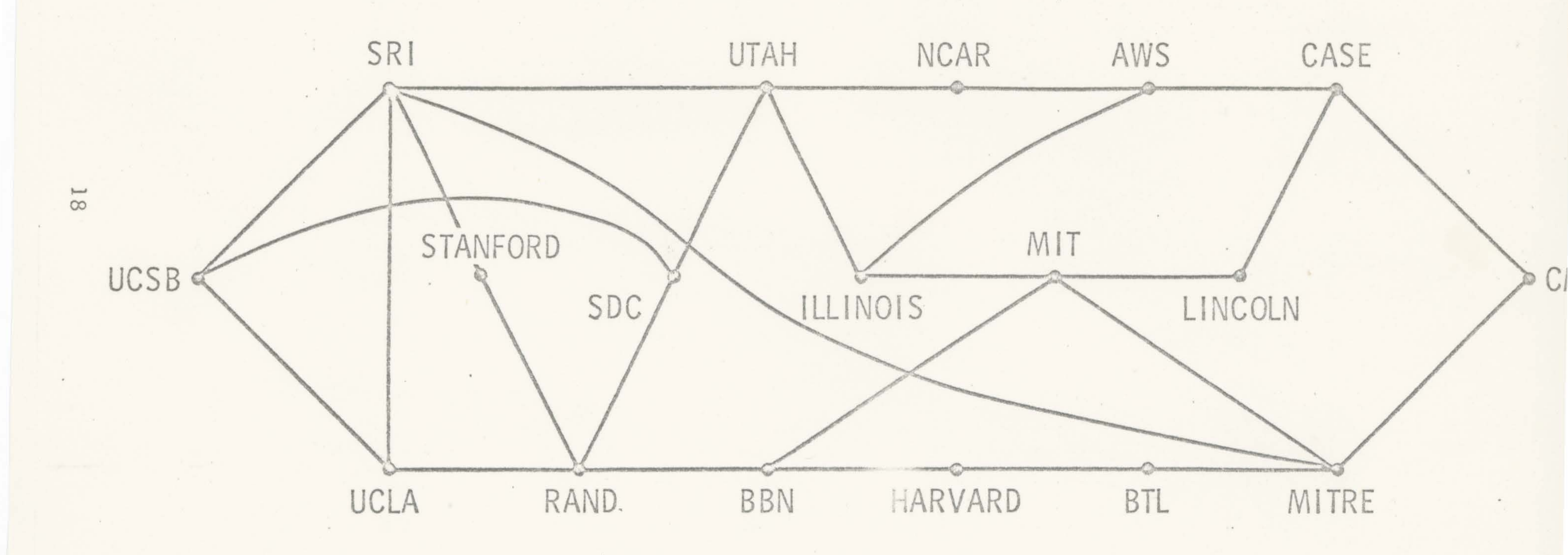


FIGURE 2

COST vs. DELAY

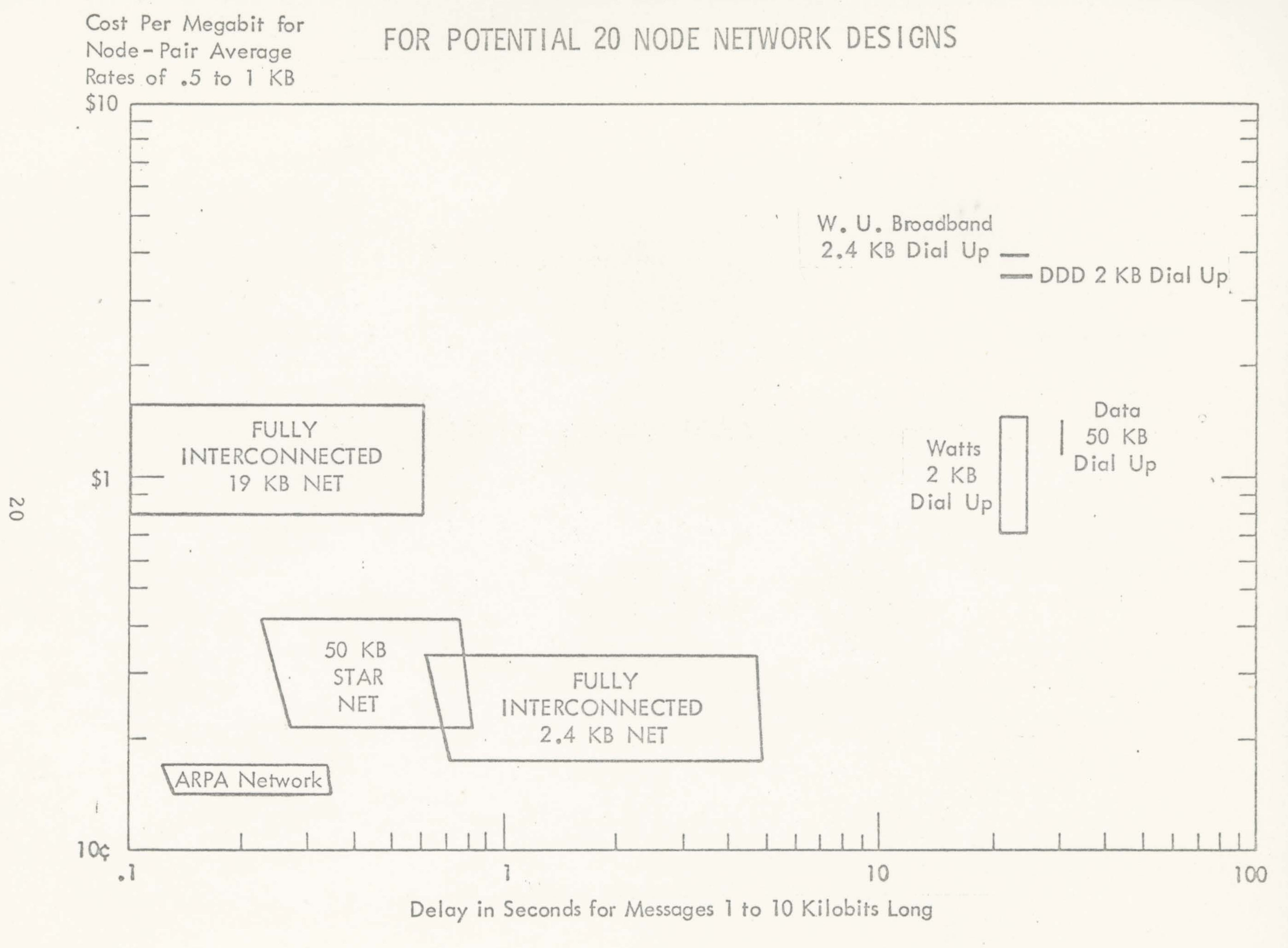


FIGURE 3

EFFECTIVE BANDWIDTH vs. BLOCK SIZE

TWENTY NODE NETWORK

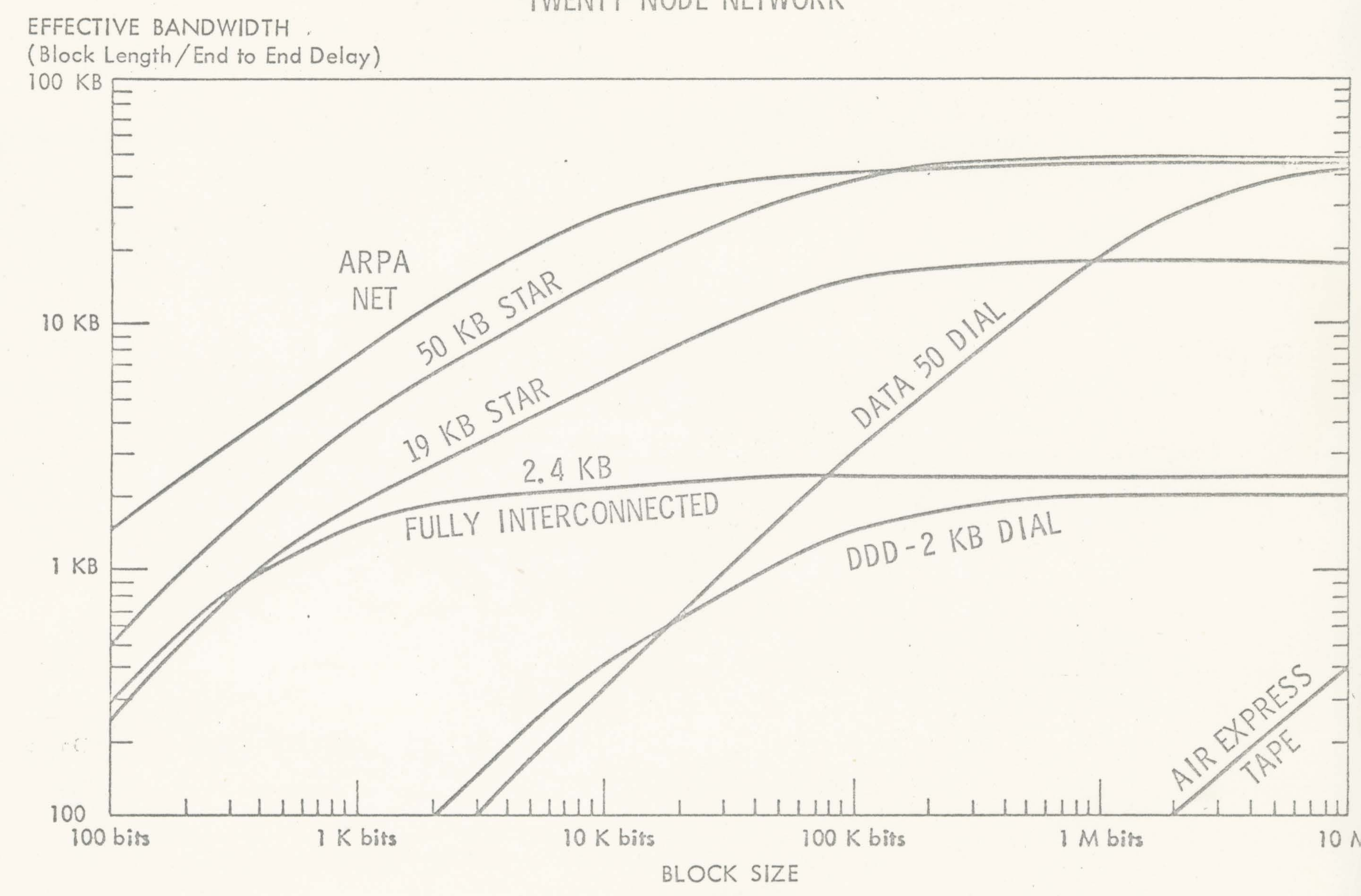
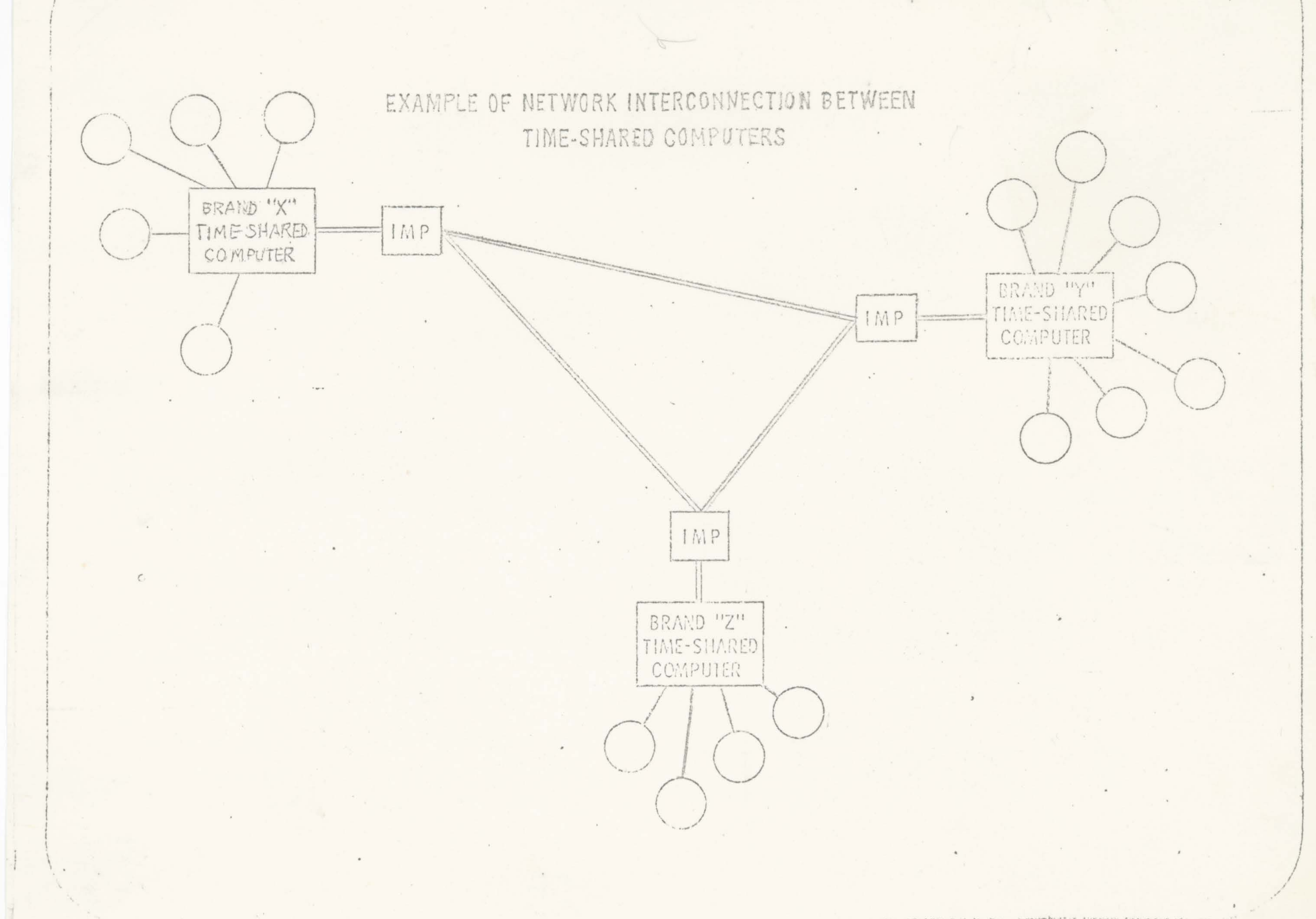
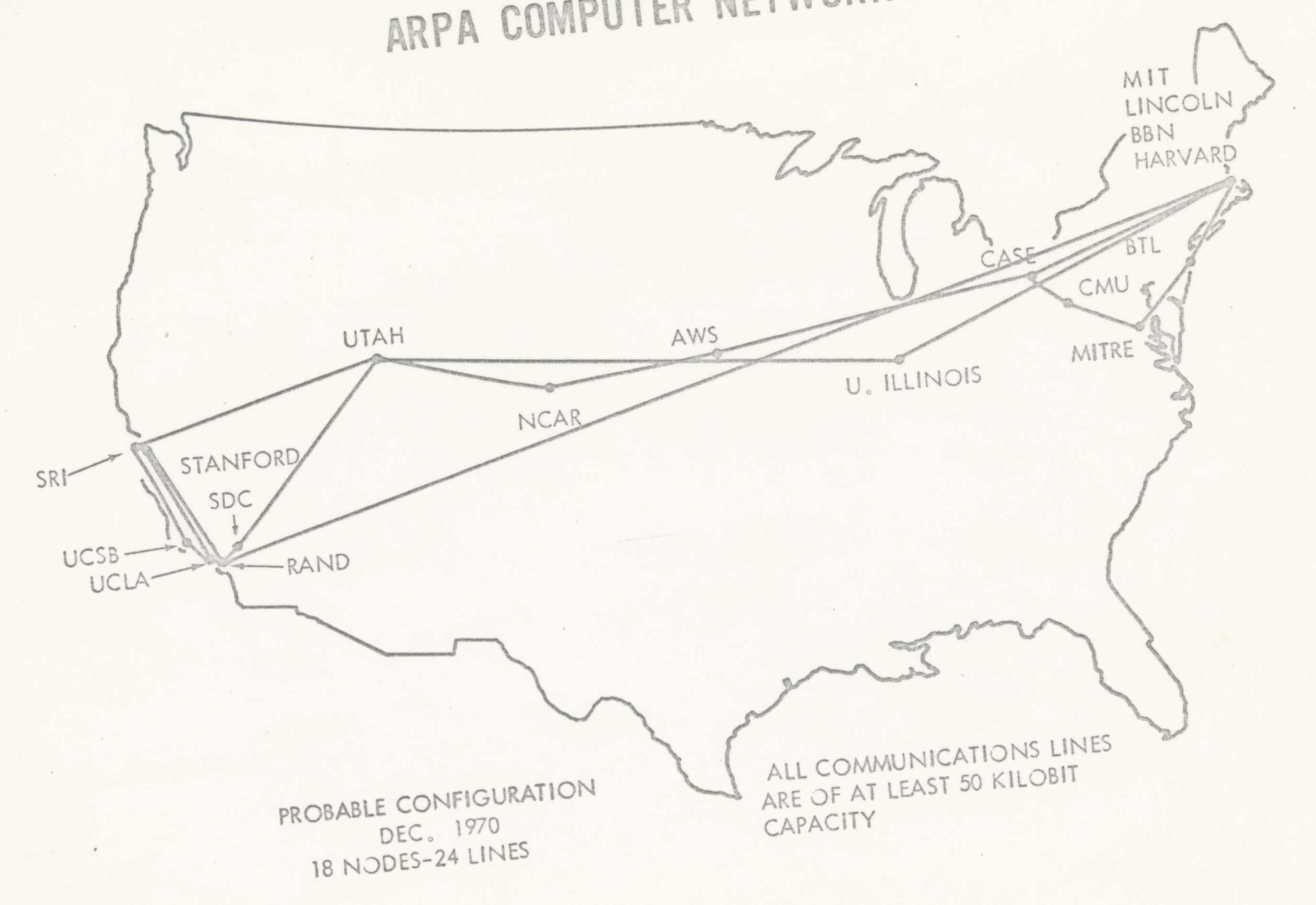


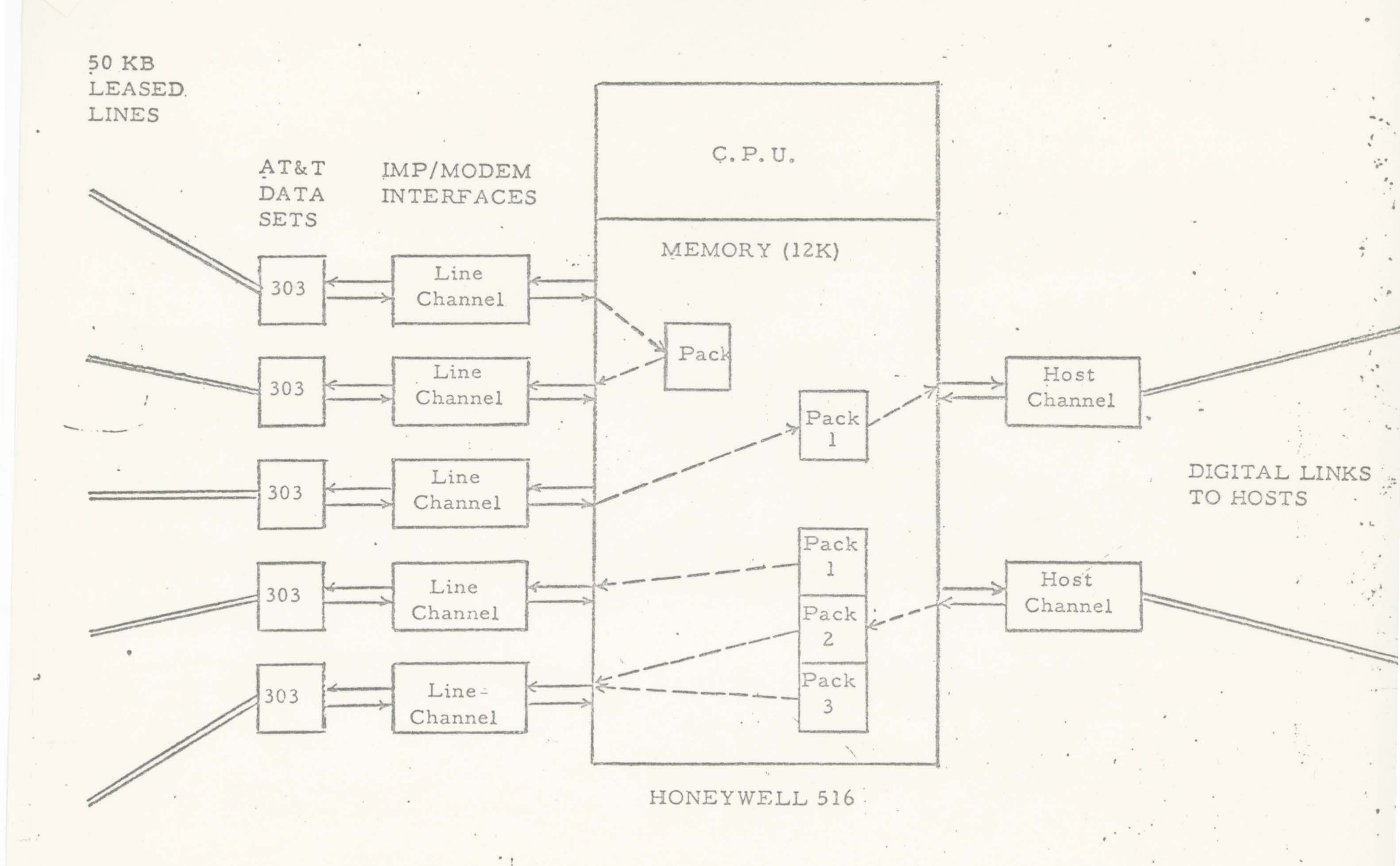
FIGURE 4


EXAMPLE OF NETWORK INTERCONNECTION BETWEEN
TIME-SHARED COMPUTERS
BRAND "X"
TIME-SHARED
COMPUTER
IMP
IMP
BRAND "Y"
TIME-SHARED
COMPUTER
IMP
BRAND "Z"
TIME-SHARED
COMPUTER


ARPA COMPUTER NETWORK
MIT
LINCOLN
BBN
HARVARD
CASE
BTL
CMU
MITRE
UTAH
AWS
U. ILLINOIS
NCAR
SRI
STANFORD
SDC
UCSB
UCLA
RAND
PROBABLE CONFIGURATION
DEC. 1970
18 NODES-24 LINES
ALL COMMUNICATIONS LINES
ARE OF AT LEAST 50 KILOBIT
CAPACITY

COST OF TRANSMITTING ONE MEGABIT OF INFORMATION A DISTANCE OF 1400 MILES VIA VARIOUS COMMUNICATION MEDIA

MEDIA	COST PER MEGABIT	BLOCK SIZE
TELEGRAM	$3300.00	3K bits
NIGHT LETTER	565.00	3K
TELEX	204.00	-
AUTODIN	8.20	30K
DIRECT DISTANCE DIALING	3.45	-
LETTER	3.30	30K
WATS	1.54	-
DATA-50	.47	-
ARPA NETWORK	.30	1K
MAIL COMPUTER TAPE	.034	100 million bits


INTERFACE MESSAGE PROCESSOR
(IMP)
50 KB
LEASED
LINES
AT&T
DATA
SETS
IMP/MODEM
INTERFACES
C.P.U.
MEMORY (12K)
303
303
303
303
303
Line Channel
Line Channel
Line Channel
Line Channel
Line Channel
Pack
Pack 1
Pack 1
Pack 2
Pack 3
Host Channel
Host Channel
DIGITAL LINKS
TO HOSTS
HONEYWELL 516